



Reading Comprehension Worksheet

Grade 3

Answer Key

Why Do Leaves Change Color in Fall?

The Secret Ingredient: Chlorophyll

During spring and summer, leaves are green because of a substance called chlorophyll. Chlorophyll absorbs sunlight and helps the tree turn that sunlight into food through a process called photosynthesis. Green is such a strong color that it covers up other colors already hiding inside the leaf all along.

What Happens When Days Get Shorter

As fall approaches, days grow shorter and temperatures drop. Trees sense these changes and begin preparing for winter. Since there is less sunlight available, the tree slows down and eventually stops producing chlorophyll. Without fresh chlorophyll being made, the green color starts to fade away.

The Colors That Were Hiding All Along

Once the green fades, other colors that were present in the leaf the entire time finally become visible. Yellow and orange colors come from substances called carotenoids, the same substances that give carrots their orange color. Red and purple colors come from substances called anthocyanins, which some trees produce fresh in the fall as sugars become trapped inside the leaf.

Why It Matters for the Tree

Losing leaves in autumn is not an accident. Trees drop their leaves to conserve water and energy during the cold winter months, when there is not enough sunlight to make food efficiently anyway. Before a leaf falls, the tree seals off the connection between the leaf and the branch, which is what eventually causes the leaf to drop to the ground.

Circle the Correct Answer

1. What substance makes leaves look green in spring and summer?

Answer: b) Chlorophyll

2. Why does a tree stop producing chlorophyll in the fall?

Answer: a) Because there is less sunlight available as days grow shorter

3. What substances give leaves their yellow and orange colors?

Answer: b) Carotenoids

4. Why do trees drop their leaves in winter, according to the passage?

Answer: a) To conserve water and energy when there is not enough sunlight

True or False

5. The yellow and orange colors in leaves are present in the leaf all along, hidden by green.

Answer: True

6. Anthocyanins are the same substances that give carrots their orange color.

Answer: False

7. Trees seal off the connection between a leaf and its branch before the leaf falls.

Answer: True

Fill in the Blank

8. Chlorophyll helps a tree make food through a process called _____.

Answer: photosynthesis

9. Red and purple leaf colors come from substances called _____.

Answer: anthocyanins

Think and Explain

10. This passage explains a cause and effect relationship: shorter days cause a chain of changes in the leaf. Using details from at least two sections, explain this cause and effect chain in your own words.

Sample answer: Accept reasonable answers describing the chain: shorter days and cooler temperatures in fall cause the tree to stop making chlorophyll, which causes the green color to fade, which reveals the yellow, orange, red, and purple colors that were either hidden underneath or newly produced.